

GRADE SIX EQAO QUESTIONS: Number Sense and Numeration

Overall Expectation #1:

- Read, represent, compare, and order whole numbers to 1 000 000, decimal numbers to thousandths, proper and improper fractions, and mixed numbers

Spring 2006

17 Which of the following is a factor of 70 but is not a prime number?

- a 10 *
- b 7
- c 4
- d 2

19 Which set is in order from least to greatest?

- a 1.153, 1.062, 0.13, 0.054
- b 0.13, 0.054, 1.162, 1.153
- c 0.054, 0.13, 1.153, 1.062
- d 0.054, 0.13, 1.062, 1.153 *

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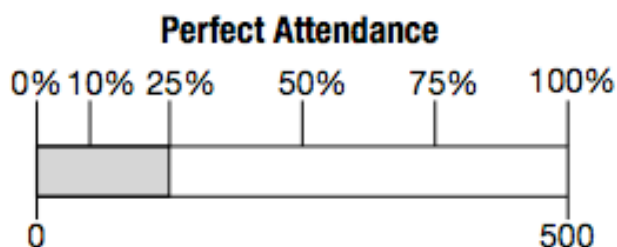
Spring 2007

- 18** What number is modelled in the place-value chart below?

Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
3	5		2		03	5

- F 3529.035
G 3529.35
H 3511.035
J 35 011.35

- 19** A school has 500 students. The shaded portion below shows the students with perfect attendance.



Which of the following is closest to the number of students with perfect attendance?

- A 100
B 200
C 300
D 400

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29 Write the following fractions in order from least to greatest.

$$\frac{3}{2}, \frac{2}{3}, \frac{1}{4}, \frac{4}{5}$$

Explain your thinking.

1 Which is the correct way to write the number 90 090 in words?

- a nine hundred ninety
- b nine thousand ninety
- c ninety thousand ninety
- d nine hundred thousand ninety

2 Joseph finishes a swim race in 73.365 seconds. Joseph knows the following about his friend's time for the same race.

- The digit in the hundredths column is 3 more than Joseph's.
- The digit in the ones column is 2 less than Joseph's.

In what time does Joseph's friend swim the race?

- a 53.368
- b 53.395
- c 71.368
- d 71.395

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10 Each of 130 students sign up for one of five activities. The table below shows some of the results.

Activity Sign-Up

Activity	Number of Students
Soccer	38
Chess	13
Band	33
Drama	
Photography	14

Susan estimates that 25% of the students signed up for drama. Jessica estimates that 50% of the students signed up for drama.

Using the benchmarks of 10%, 25%, 50%, 75% or 100%, justify which estimate is more appropriate.

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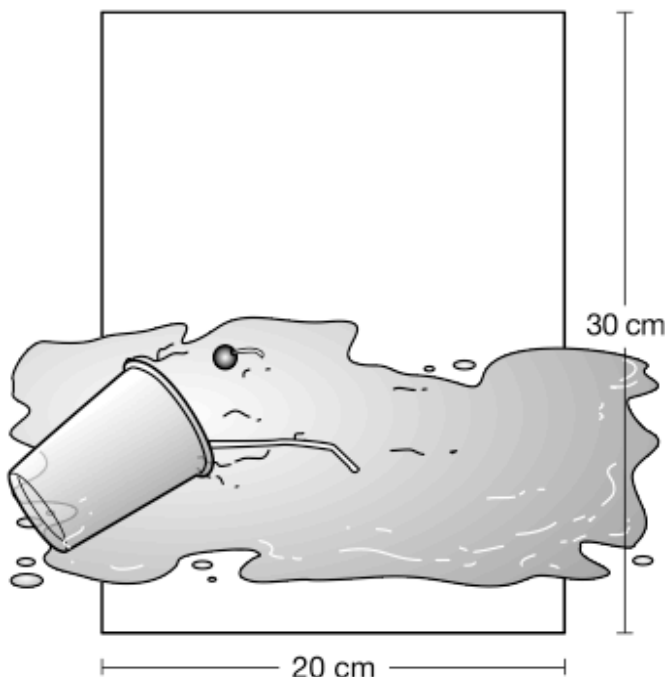
Spring 2009

- 1** Which of the following lists shows these numbers in order from least to greatest?

1.250, 12.50, 0.125, 125.0

- a 0.125, 12.50, 1.250, 125.0
- b 125.0, 12.50, 1.250, 0.125
- c 12.50, 125.0, 0.125, 1.250
- d 0.125, 1.250, 12.50, 125.0

- 33** Samantha spills a milkshake on a rectangular piece of paper as shown below.



Which of the following **best** approximates the area of the entire spill?

- a 100 cm^2
- b 300 cm^2
- c 400 cm^2
- d 600 cm^2

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29 Consider the fractions $\frac{3}{2}$ and $1\frac{3}{4}$.

- Which of these fractions is larger?

Justify your answer.

The larger fraction is _____.

- Find a fraction between $\frac{3}{2}$ and $1\frac{3}{4}$.

Justify your answer.

A fraction between $\frac{3}{2}$ and $1\frac{3}{4}$ is _____.

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Spring 2010

1 Zach lives in a city with a population of ninety-two thousand forty-seven. Which number below represents the population of this city?

- a 9247
- b 92 470
- c 92 047
- d 920 047

32 Mr. Price's class collects a total of 1943 pennies over a period of 4 weeks. Samantha brings 125 pennies each week.

Approximately what percent of the total number of pennies collected does Samantha bring?

- a 10%
- b 25%
- c 50%
- d 75%

GRADE SIX EQAO QUESTIONS: Number Sense and Numeration

- 8** Consider the fractions shown below.

$$\frac{3}{4}, \frac{18}{25}, \frac{15}{20}, \frac{75}{100}$$

Which fractions represent equal values?

Justify your answer.

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Overall Expectation #2:

- Solve problems involving the multiplication and division of whole numbers, and the addition and subtraction of decimal numbers to thousandths, using a variety of strategies

Spring 2006

- 4** Germaine buys one hamburger, one sandwich and two fruit salads.

Menu

Item	Amount
Hamburger	\$3.50
Sandwich	\$2.75
Fruit Salad	\$1.60
Frozen Yogourt	\$3.00

How much change should she receive from \$20.00?

- a \$9.15
- b \$9.45
- c \$10.55 *
- d \$12.15

- 5** Which number, when placed in the box, makes the following number sentence true?

$$15 - 6 \times 2 + 18 \div 3 = \square$$

- a 7
- b 9 *
- c 12
- d 24

GRADE SIX EQAO QUESTIONS: Number Sense and Numeration

25 Cary needs to set up 144 chairs in rows. Each row must have an equal number of chairs. Which of the following could be the method Cary uses to set up the chairs?

- a 14 rows of 10 chairs
- b 12 rows of 14 chairs
- c 6 rows of 21 chairs
- d 8 rows of 18 chairs *

29 The rectangular ceiling of a room has an area of 36 m^2 . The ceiling needs 3 coats of paint. Each can of paint covers 25 m^2 .

About how many cans of paint are needed to paint the ceiling?

Explain your thinking.

____ cans of paint are needed.

- 5** Four students in Ms. Haswell's class simplify the expression below.

$$6 + 21 \div 7 - 4 \times 2 + 5$$

The first step of each of the four students is shown in the table below.

Simplifying the Expression

Student	First Step
Zoe	$6 + 21$
Liam	$7 - 4$
Dennis	$21 \div 7$
Deborah	$2 + 5$

Which student performs a first step that is correct?

- A Zoe
- B Liam
- C Dennis
- D Deborah

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- 34** The table below shows the number of pop cans four classes collect. It also shows the number of days each class collects during the recycling program.

Class	Pop Cans Collected	Days Collected
Class 1	7284	40
Class 2	1250	25
Class 3	3742	20
Class 4	2705	50

Which class collects the greatest number of pop cans per day?

- F Class 1
- G Class 2
- H Class 3
- J Class 4

- 31** Look at the expression below.

$$6 - 2 \times 6 \div 2$$

Which of the following shows the order of operations that can be used to simplify this expression correctly?

- a subtraction, division, multiplication
- b subtraction, multiplication, division
- c division, subtraction, multiplication
- d multiplication, division, subtraction

- 32** A swim team completes the 4-person relay in 210.625 seconds. The times for the first three swimmers are shown below.

Swimmers' Times

Swimmer	Time (in seconds)
1	53.452
2	59.371
3	47.582
4	?

What is the time for swimmer 4?

- a 50.220 seconds
- b 50.200 seconds
- c 50.022 seconds
- d 50.020 seconds

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Spring 2009

- 2** Chandra, Brittany, Ben and Daniel buy different sandwiches and salads for lunch. Their choices are shown below.

Prices for Lunch

	Salad	Sandwich
Chandra	\$4.48	\$3.99
Brittany	\$4.48	\$4.99
Ben	\$3.49	\$4.99
Daniel	\$3.49	\$3.99

Which person should receive about \$2.50 change from \$10.00?

- a Chandra
- b Brittany
- c Ben
- d Daniel

- 31** It takes Nadeem 22 minutes to walk 1 kilometre. At this rate, approximately how long will it take Nadeem to walk 5 kilometres?

- a 1 hour
- b 2 hours
- c 100 hours
- d 110 hours

- 32** Which expression is equivalent to $128 \div 2$?

- a $(120 \div 2) + (8 \div 2)$
- b $(120 \div 2) \div (8 \div 2)$
- c $(120 + 2) + (8 + 2)$
- d $(120 + 2) \div (8 + 2)$

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- 28** Carmen wants to install a fence. Each section of fence is 2.4 metres long and costs \$6.00 per metre. Carmen will need 16 sections of fence. How much change should he receive from \$250?

Show your work.

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Spring 2010

5 A number divided by 58 is close to 30.

Which of the following could be this number?

- a 18.43
- b 184.3
- c 1843
- d 18 430

23 Which operation is a correct first step to simplify the expression below?

$$44 + 10 \div 5 - 3 \times 2 + 1$$

- a $2 + 1$
- b $5 - 3$
- c $10 \div 5$
- d $44 + 10$

GRADE SIX EQAO QUESTIONS: Number Sense and Numeration

Overall Expectation #3:

- Demonstrate an understanding of relationships involving percent, ratio, and unit rate.

Spring 2006

20 The results of a survey show that 30% of the people surveyed read a newspaper regularly. Which of the following numbers is equivalent to 30%?

a 0.03

b 3.0

c $\frac{1}{3}$

d $\frac{3}{10}$ *

8 Pie is served at a picnic. Each pie is made up of 6 equal pieces. Bradley records the number of pieces each person eats in the table below.

Name	Gurleen	Max	Ta-Shanya	Stewart	Brianne	Adrian
Number of Pieces Eaten	3	2	2	3	3	1

How many pies are eaten in total? Express your answer as a fraction.

Show your work.

They eat _____ pies.

GRADE SIX EQAO QUESTIONS: Number Sense and Numeration

Spring 2007

- 6** The weather report shows that there is an 80% chance of rain tomorrow. Which fraction represents this chance?

F $\frac{1}{2}$















G $\frac{3}{4}$

H $\frac{4}{5}$


J $\frac{5}{6}$

- 35** Some students were asked in a survey, “What is your favourite sport?” The graph below shows the results of the survey.

Favourite Sport

Favourite Sport	Number of Students
Hockey	  
Basketball	  
Volleyball	   
Soccer	 
Other Sports	 

Key

 represents 4 students

What percent of the students chose hockey as their favourite sport?

- A 2.5%
- B 10%
- C 20%
- D 25%

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8 A school needs to buy 2400 pencils. The prices for pencils at 3 stores are shown below.

- Store A sells 60 pencils for \$1.80.
- Store B sells 30 pencils for \$0.99.
- Store C sells 15 pencils for \$0.55.

The school will purchase the pencils with the lowest price. Which store has the lowest price for 2400 pencils?

Explain your answer.

Store _____ has the lowest price for pencils.

22 A package of 3 pairs of socks costs \$3.90. What is the cost of one pair of socks?

- a \$1.30
- b \$1.90
- c \$6.90
- d \$11.70

23 A teacher plants 6 tulips and 9 roses in a planter. Which of the following represents the ratio of roses to tulips?

- a $\frac{3}{2}$
- b $\frac{2}{3}$
- c $\frac{15}{9}$
- d $\frac{9}{15}$

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- 27** Josie, Christina, Audrey and Manny go shopping. Josie spends $\frac{4}{5}$ of her money, Christina spends 75% of her money, Audrey spends 0.68 of her money and Manny spends $\frac{17}{20}$ of his money.

Who has the largest percentage of their money left?

Justify your answer.

22 Natasha is 12 years old. Her teacher is 36 years old. Which ratio represents Natasha's age in 4 years to her teacher's age in 4 years?

- a 1:3
- b 2:5
- c 3:10
- d 4:9

31 Amir's class has 24 students. There are 15 boys in the class. Which of the following represents the ratio of girls to boys?

- a 24:9
- b 9:24
- c 5:3
- d 3:5

34 Chris, Paul and Carla share the cost of renting a video game.

- Chris pays 0.4 of the cost.
- Paul pays 36% of the cost.
- Carla pays the remainder of the cost.

What fraction of the cost does Carla pay?

- a $\frac{6}{25}$
- b $\frac{9}{25}$
- c $\frac{19}{25}$
- d $\frac{24}{25}$

GRADE SIX EQAO QUESTIONS: Number Sense and Numeration

28 The rates for Internet use offered by three companies are shown below.

- Company A: \$6.00 for every 90 minutes of use
- Company B: \$2.75 for every 45 minutes of use
- Company C: \$3.00 for every 60 minutes of use

Which company offers the lowest rate per minute?

Show your work.

Company _____ offers the lowest rate per minute.